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(((feel the rush)))



QS12D4 - 12" SUBWOOFER

Installation Instructions / Owner's Manual



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Introduction

Congratulations on your purchase of a Quantum Audio® state-of-the-art subwoofer component. Your selection of a Quantum Audio® car audio product indicates a true appreciation of fine musical reproduction. Whether adding to an existing system or including a Quantum Audio® subwoofer in a new system, you are certain to notice immediate performance benefits.

Keep your sales receipt

Take this time to attach your sales receipt to the manual and put in a safe place. In case of any unforeseen reason this product may need warranty service, your receipt will be necessary to establish purchase date. For detailed warranty information please refer to the enclosed warranty card.

Recommendation

A speaker's performance is only as good as it's enclosure. Proper installation, enclosure size and crossover frequency will maximize the overall performance of the subwoofer. To properly design and build an enclosure, knowledge of woodworking as well as the proper tools are required. We highly recommend that you have your enclosure built by an authorized Quantum Audio® retailer. However, if you decide to install it yourself, we have included the parameters of each driver and recommended enclosure sizes. If after reviewing the enclosed information you have any additional questions, please feel free to contact our technical dept.



WARNING!

Exposure to high sound pressure levels can cause hearing loss or damage. Listening to your system at loud levels while driving, will impair your ability to hear traffic sounds and emergency vehicles. Use common sense when listening to your system.

When installing your subwoofer enclosure in the vehicle, securely fasten it to the frame or floor pan. If the enclosure is not secured properly, there is danger of it becoming a projectile in a collision.

Due to continuing product improvement, specifications and design are subject to change without notice.

Product Specifications (Coils in Series)

Nominal Impedance	(NomZ)	4 / 4
Free Air Resonance.	(FS)	30.51 Hz
Total Q of driver @ FS including all resistances.	(Qts)	.67
Q of driver @ FS including non-electrical resistance only.	(Qms)	6.67
Q of driver @ FS including electrical resistance only.	(Qes)	.74
The driver's compliance expressed as an equivalent volume of air. (Liters)	(Vas)	108 L
The driver's linear displacement (inches).	(Xmax)	.33 in. / 8.4 mm
The DC resistance of the driver's voice coil (ohms).	(Re)	6.48
Thermal power rating of driver (R.M.S. / Peak).	(Pe)	250/500
The driver's sensitivity (dB).	(Sens)	87



Calculating Enclosures

It is difficult to give exact box dimensions that are universal for all cars and trucks. It is for this reason that you must be able to calculate the space in which you have available in order to achieve the proper air volume required.

It is recommended to build your enclosure from 3/4" thick MDF (medium density fiberboard). Make sure the enclosure is sealed air-tight.

Calculating External Volume

- 1.) To calculate box volume, measure the outside Width x Height x Depth of the enclosure. Example 12" x 14" x 9" = 1512".
- 2.) Next you must convert cubic inches into cubic feet. To do this, you must divide the cubic inch total by 1728" Example $1512 \div 1728 = .875$ Cubic Feet

Calculating Internal Volume

- 1.) To calculate the internal (net) volume of the above box you must first multiply the thickness of the wood you are using by Two (2). Example $3/4" \times 2 = 1.5"$.
- 2.) Next subtract 1.5 from each of the outside measurements of the box.

Width	Height	Depth
$12 - 1.5 = 10.5$	$14 - 1.5 = 12.5$	$9 - 1.5 = 7.5$
- 3.) Multiply the new totals (H x W x D) Example: $10.5 \times 12.5 \times 7.5 = 984.375$
- 4.) Next you must convert cubic inches into cubic feet. To do this, you must divide the cubic inch total by 1728" Example $984.375 \div 1728 = .5696$

QS12D4

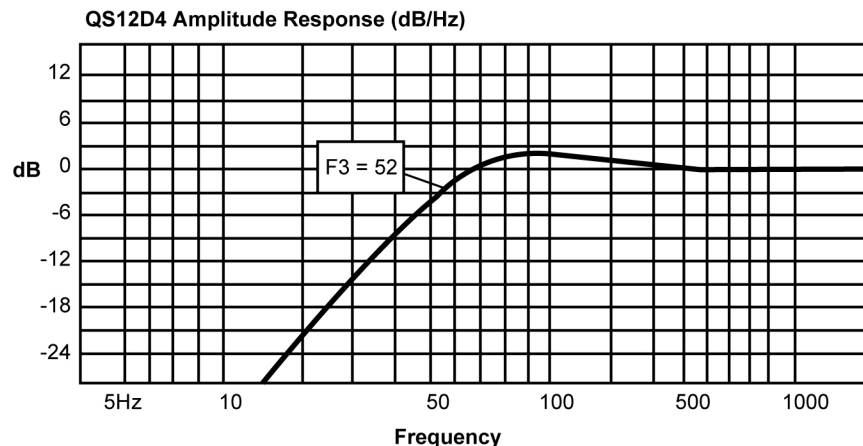
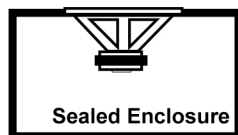
Recommended Enclosures

Please Note: Our suggested box volumes are given as an internal air requirements.

Sealed Enclosure

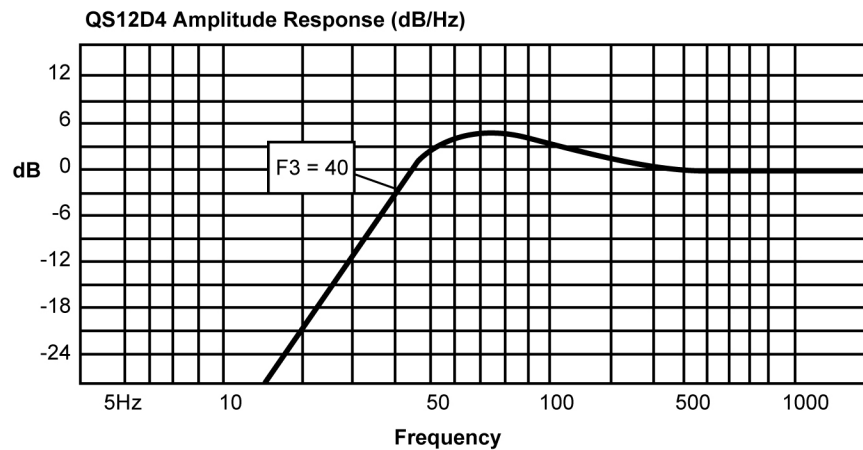
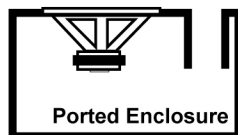
Box Volume *1.0 Cu. Ft.

- Box is given as an Internal air volume including driver Displacement.



Ported Enclosure

Box Volume *1.8 Cu. Ft.
 Port Frequency (Fb) 40 Hz
 Port Diameter 4 Inches
 Port Length 9.2 Inches



Connections

The dual voice coil design gives the flexibility for many different wiring configurations to match the impedance capability of your amplifier. Here are a few examples of the possible connections.

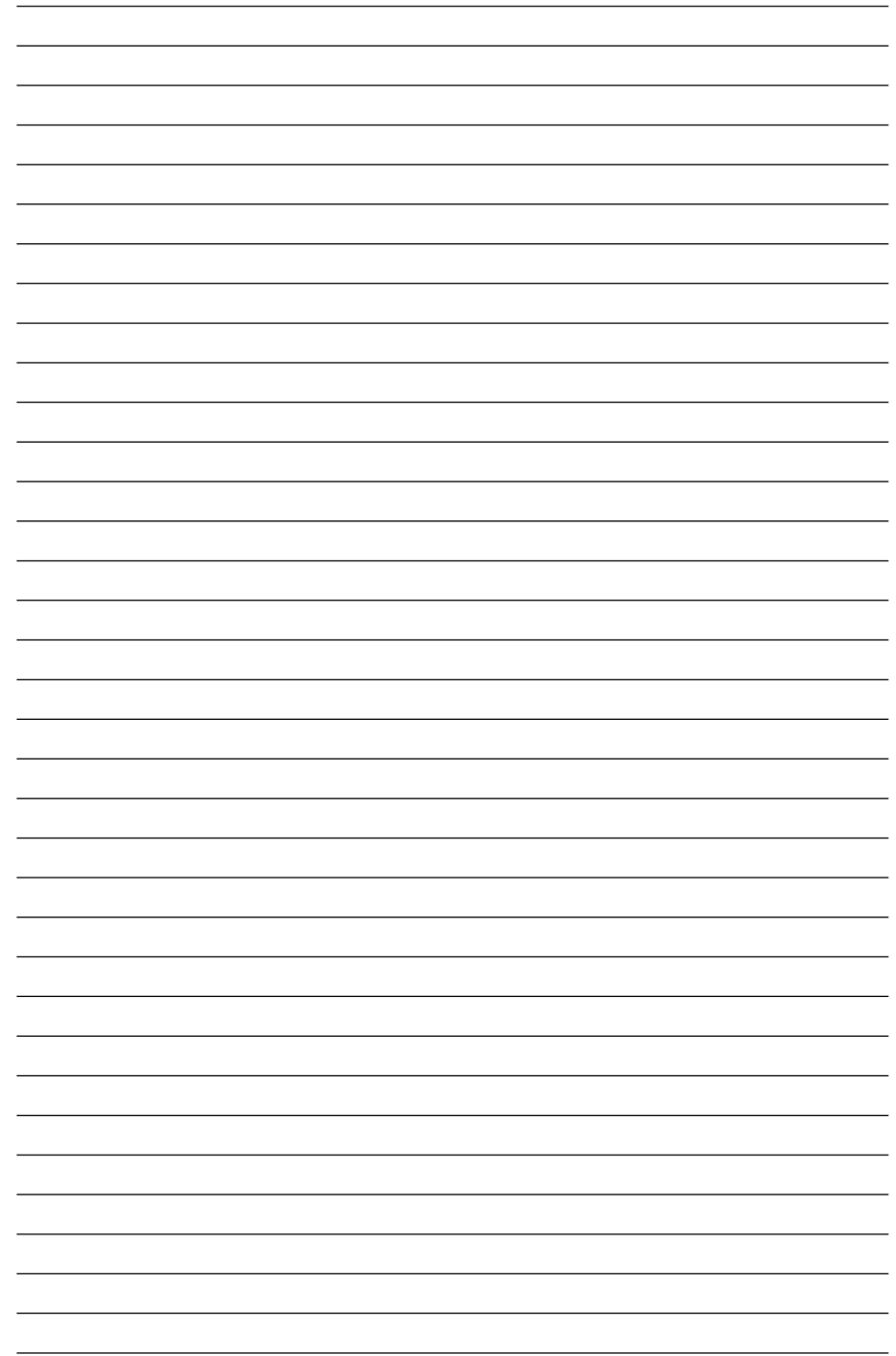
Parallel Connections Using Dual Voice Coil Subwoofer



Series Connections Using Dual Voice Coil Subwoofer



Notes



A diagram of a 4 Ohm V.C. speaker. The speaker is shown with two terminals on the left and two on the right. The left terminals are labeled "4 Ohm V.C." with a "+" sign on the top terminal and a "-" sign on the bottom terminal. The right terminals are also labeled "4 Ohm V.C." with a "+" sign on the top terminal and a "-" sign on the bottom terminal. A 4 Ohm Load To Amplifier is connected between the bottom terminals of both sides. The load is represented by a resistor symbol with "4 Ohm Load To Amplifier" written below it.